



ATF-LS-LP11 Gentian Violet	Published Online: March 2018
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I. **Scope:** Gentian violet (crystal violet) is a sensitive stain which reacts with epithelial cells and other portions of latent print residue transferred upon surface contact. The presence of sebum appears to serve as an excellent transfer medium for sloughed epidermal cells and as a result, gentian violet is usually effective on surfaces which readily hold the deposited sebum, such as the adhesive side of tapes. The high sensitivity of gentian violet produces an immediate reaction upon skin contact, therefore, leak proof gloves are required for examinations. Accidental staining of the skin is relatively harmless, however, discoloration usually remains on the skin until “worn” off by the normal sloughing of skin cells.

II. **References:**

Arima, T. “Development of Latent Fingerprints on Stick Surfaces by Dye Staining or Fluorescent Brightening” *Identification News*, February 1981.

Cowger, James F. *Friction Ride Skin Comparison and Identification of Fingerprints*; Boca Raton: CRC Press, 1993.

Kent, Terry, ed. *Fingerprint Development Techniques*, Heanor Gate Publisher: Derbyshire, England, 1993.

III. **Apparatus/Reagents:**

Gentian Violet working solution - 0.1% concentration preferred. Higher concentrations are sometimes used, but increased amounts of gentian violet are difficult to dissolve and can create an increased background discoloration.

- Dissolve 1.0 grams of Gentian Violet in 1 liter of distilled water.

IV. **Safety Precautions:** This procedure involves the use of hazardous materials. This procedure does not purport to address all of the safety problems associated with its use. It is the responsibility of the user of this procedure to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use. Proper caution should be exercised and the use of personal protective equipment should be utilized to avoid exposure to dangerous chemicals. Consult the appropriate MSDS for each chemical prior to use.

V. **Procedures:**

1. Fill a tray large enough to accommodate the item being processed with enough working solution to cover the item.
2. While agitating, immerse the item being processed completely for approximately 30 seconds.
3. Rinse the item under a gentle flow of tap water until all excess staining is removed.
4. Record any observed impressions.

Note: The above steps may be repeated until optimum contrast is reached.

Quality Assurance/Quality Control: Dye stains such as Gentian Violet, work by staining latent impressions composed of epithelial cells and sebum. Documentation of control testing of working solutions of Gentian Violet shall be made using the appropriate reagent log. Test solution by placing test

impressions on the adhesive side of duct tape or masking tape. Expose the test impressions to the working solution per the procedures above. If the test prints are visualized, the solution is working properly.